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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,268	06/30/2004	Hsun-Hao Chang	11710-US-PA	4267

31561 7590 03/28/2008

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER	
GOMA, TAWFIK A	
ART UNIT	PAPER NUMBER
2627	

NOTIFICATION DATE	DELIVERY MODE
03/28/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

Office Action Summary	Application No.	Applicant(s)	
	10/710,268	CHANG ET AL.	
	Examiner	Art Unit	
	TAWFIK GOMA	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5-6, 9-10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over unpatentable over Hsu et al (US 2002/0154596) in view of Todori et al (US 2001/0038900).

Regarding claim 1,Hsu discloses a method for reading data from a high density optical recording medium; wherein the high density optical recording medium comprises: a substrate (1, fig. 4a); a first dielectric layer formed on the substrate (51, fig. 4a and pars. 24 and 25); a recording layer formed on the first dielectric layer (22, fig. 4a and pars. 24 and 25; and a reflective layer formed on the recording layer (3, fig. 4a and pars. 24 and 25); the method comprising generating a value using a formula Pr/(.lambda./NA), wherein Pr is a reading power, .lambda. is a wavelength; and NA is a numerical aperture, wherein when the value is in a range of about 1.15 to about 8 mW/.mu.m, a recording mark within the high density optical recording medium which is smaller than a resolution limit of an optical system is detected (pars. 30 and 35, PR=2mW for embodiment 1, NA=.6 and Wavelength = 635 nm, equation result = 1.89 mW/um). Hsu fails to disclose providing a second dielectric layer formed between the

recording layer and the refection layer. In the same field of endeavor, Todori discloses providing a second dielectric layer for a super resolution disc between a recording layer and a reflection layer (26, fig. 6). It would have been obvious to one of ordinary kill in the art at the time of the applicant's invention to modify the method disclosed by Hsu by providing a second dielectric layer as taught by Todori. The rationale is as follows: It would have been obvious to provide a dielectric layer between the recording layer and the reflection layer as it would have been the use of a known technique to a known device ready for improvement to yield predictable results.

Regarding claim 5, Hsu further discloses wherein the first dielectric layer comprises SiNx (par. 29). Todori fails to disclose the composition of the dielectric layer formed. It would have been obvious to one of ordinary skill in the art to use SiNx as the dielectric material for the second dielectric layer in the combination of Hsu and Todori. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to use SiNx for the material of the dielectric layers in order to reduce the number of different materials sued in the disc by using the same materials for both of the dielectric layers.

Regarding claim 6, Hsu further discloses wherein a material of the reflective layer is selected from a group consisting of Au, Ag, Al, Ti, Pb, Cr, Mo, W, Ta, Cu, Pd and an alloy thereof (par. 29).

Regarding claim 9, Hsu further discloses wherein the high density optical recording medium comprises an isolation layer between the first dielectric layer and the recording layer (53, fig. 4a and par. 24).

Regarding claim 10, Hsu further discloses wherein the isolation layer is selected from a group consisting of SiC, SiO.sub.2, TiO.sub.2, Al.sub.2Ox, GeCrN, GeNx and AlNx (par. 24).

Regarding claim 15, Hsu further discloses wherein the high density optical recording medium comprises a polymer layer formed on the reflective layer (41, fig. 4a, and par. 24).

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al (US 2002/0154596) in view of Todori et al (US 2001/0038900) as applied to claims 1, 5-6, 9-10 and 15 above, and further in view of Tominaga et al (US 5569517).

Regarding claim 2, Hsu in view of Todori fail to disclose wherein the recording layer is a phase-change material. In the same field of endeavor, Tominaga discloses wherein a recording layer is formed of a phase change material (col. 8 lines 56-61). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the method disclosed by Hsu in view of Todori to provide a phase change recording layer as in Tominaga. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide a phase change recording layer in order to provide a re-writable CD format.

Regarding claim 3, Tominaga further discloses wherein the phase-change material comprises a metal. (col. 8 lines 56-61).

Regarding claim 4, Tominaga further discloses wherein the recording layer is a combination of an element selected from a group consisting of Ge, Sb, Te, Ag, In, Sn, Se, Ga, Bi and V group element, and oxide or nitride thereof (col. 8 lines 56-61).

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al (US 2002/0154596) in view of Todori et al (US 2001/0038900) as applied to claims 1, 5-6, 9-10 and 15 above, and further in view of Ito et al (US 2002/0155248).

Regarding claim 7, Hsu in view of Todori fail to disclose wherein the high density optical recording medium comprises an isolation layer between the second dielectric layer and the reflective layer. In the same field of endeavor, Ito discloses providing an isolation layer between a second dielectric layer and a reflective layer (4', fig. 1 and par. 75). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide an isolation layer. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide an isolation layer in order to prevent the deterioration of the reflection layer (see par. 75).

Regarding claim 8, Ito further discloses wherein the isolation layer is selected from a group consisting of SiC, SiO.sub.2, TiO.sub.2, Al .sub.2Ox, GeCrN, GeNx and AlNx (par. 75).

Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al (US 2002/0154596) in view of Todori et al (US 2001/0038900) as applied to claims 1, 5-6, 9-10 and 15 above, and further in view of Chen (US 6896946).

Regarding claims 11 and 13, Hsu in view of Todori fail to disclose wherein the high density optical recording medium comprises a first and second crystallization-acceleration layer between the first dielectric layer and the recording layer and between the recording layer and the reflective layer respectively. IN the same field of endeavor, Chen discloses a first and second crystallization-acceleration layer as claimed (col. 3 lines 8-15). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the

medium to provide first and second crystallization layers. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide first and second crystallization enhancement layers in order to enhance the initiation-free effect of a recording layer (col. 4 lines 51-55).

Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al (US 2002/0154596) in view of Todori et al (US 2001/0038900) and Chen (US 6896946). as applied to claims 11 and 13 above, and further in view of Cheong (US 2002/0182364).

Regarding claims 12 and 14, Hsu in view of Todori and Chen fail to disclose wherein the second crystallization-acceleration layer is selected from a group consisting of SiC, GeCrN, GeNx and AlNx. In the same field of endeavor, Cheong discloses the use of these materials for a crystallization promoting layer (par. 9). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to use the materials for the crystallization enhancement layers. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have used the materials disclosed by Cheong as a simple substitute of one known element for another to obtain predictable results.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAWFIK GOMA whose telephone number is (571)272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

/Tawfik Goma/
Examiner, Art Unit 2627